

REMARKS

Applicant respectfully requests reconsideration of this application in view of the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in substantially the same order in which the corresponding issues were raised in the Office Action.

As a preliminary matter, Applicant appreciates the Examiner's willingness to discuss the Office Action and, in particular, the rejections under 35 U.S.C. § 101 by telephone on August 15, 2006. Applicant also appreciates the Examiner's suggested amendments to claims 18 and 42 which, as indicated, should overcome the § 101 rejections. Accordingly, Applicant has amended claims 18 and 42, as suggested by the Examiner, to include limitations directed to the language of the preamble of each claim, which limitations clarify the pre-existing scope of the claims.

Status of the Claims

Claims 1-49 are pending. Claims 18 and 42 are currently amended to more clearly define the pre-existing scope of the claims. No claims are canceled. No claims are added. No new matter has been added.

Summary of the Office Action

Claims 1-17, 32-41, and 49 are allowed.

Claims 18-31 and 42-48 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claims 18-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,507,606 to Sheno et al. (hereinafter "Sheno") in view of U.S. Patent No. 6,236,664 to Erreygers (hereinafter "Erreygers").

Response to Rejections under 35 U.S.C. § 101

The Office Action rejected claims 18-31 and 42-48 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. In particular, the Office Action states that the claims recite a process that consists solely of the manipulation of an abstract idea that is not concrete or tangible. The Office Action also states that the claims are directed to

non-statutory subject matter because they do not produce any practical application resulting in a useful, concrete, and tangible result.

As suggested by the Examiner in a telephone conference with Applicant on August 15, 2006, Applicant has amended independent claims 18 and 42 to include limitations directed to the language of the preamble of each claim. Accordingly, Applicant respectfully requests that the rejections of claims 18-31 and 42-48 under 35 U.S.C. § 101 be withdrawn.

Response to Rejections under 35 U.S.C. § 103(a)

The Office Action rejected claims 18-31 under 35 U.S.C. § 103(a) as being unpatentable over Sheno in view of Erreygers. Applicant respectfully requests withdrawal of these rejections because the combination of cited references fails to teach or suggest all of the limitations of the claims.

CLAIMS 18-31

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sheno in view of Erreygers. Applicant respectfully submits that claim 18 is patentable over the combination of cited references because the combination does not teach or suggest all of the limitations of the claim. Claim 18, as amended, recites:

A method for improving transmission of DSL signals over a local loop, comprising:

 configuring a loop extender with communications, control, and diagnostic functionality;

 sampling a digital subscriber loop signal **within amplification circuitry** of the loop extender **to evaluate the amplification circuitry**.

 using the sampled DSL signals to improve transmission of the DSL signals over the local loop.

(Emphasis added).

In support of the rejection, the Office Action states, in part:

Sheno doesn't disclose sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry. Erreygers discloses sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry (figure 4 and 5 block 86; column 6 lines 2-12. **A regeneration circuit will decode the signal, this will require an A/D converter and will again recode the signal and transmit the signal,**

that will require an amplification circuit, producing a determined level at the output in accordance with the FCC rules for phone lines such as part 68. The amplification of the signal will depend on the sampled signal in the decoder).

Office Action, 05/16/2006, p. 3 (emphasis added).

Applicant respectfully disagrees with the Office Action's characterization of the prior art because the cited combination of prior art fails to teach or suggest all of the limitations of the claim. In particular, Shenoi and Erreygers, either alone or in combination, do not teach or suggest sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry.

Shenoi teaches a loop extender for long ADSL subscriber lines. Shenoi, Abstract. The Office Action correctly recognizes that Shenoi does not teach sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry. Office Action, 05/16/2006, p. 3.

Erreygers does not cure this lack of teaching by Shenoi because Erreygers also fails to disclose sampling a signal within amplification circuitry to evaluate the amplification circuitry. Erreygers is directed to a DSL repeater with a pair gain system. Erreygers, Abstract. Within the repeater, a power supply and regeneration circuit 86 regenerates the feeding voltage to a predetermined higher voltage for transmission to a remote terminal at a customer premises. Erreygers, col. 6, lines 2-5. In other words, the power supply and regeneration circuit 86 appears to amplify the signal for retransmission. However, Erreygers does not disclose any other functions of the power supply and regeneration circuit 86. Thus, Erreygers does not explicitly teach or suggest sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry.

Although Erreygers is silent on the issue of sampling, the Office Action hypothesizes about how the power supply and regeneration circuit 86 might operate. In summary, the Office Action asserts that the power supply and regeneration circuit 86 will decode and recode the signal (presumably related to the sampling limitation of claim 18) and amplify the signal for transmission. However, such disclosure is absent from the cited reference.

Given that Erreygers does not disclose the details proposed by the Office Action, it appears that the Office Action attempts to assert that the teaching of sampling is

inherent in the disclosure of Erreygers. In order to establish inherency, the Office Action must provide extrinsic evidence that the missing descriptive matter is necessarily present in the cited reference, and that it would be so recognized by persons of ordinary skill—mere probabilities or possibilities are insufficient. M.P.E.P. § 2112(IV) (citing In re Robertson, 169 F.3d 743, 745 (Fed. Cir. 1999)). Here, the Office Action merely offers one possible explanation, unsupported by any evidence, of how the power supply and regeneration circuit 86 might operate. If the Office Action intends to assert that sampling is inherent in the disclosure of Erreygers, then Applicant respectfully requests that the Examiner provide some type of documentary evidence to show that such sampling necessarily occurs. Otherwise, Applicant respectfully submits that the Office Action fails to satisfy the burden of proof necessary to show inherency. M.P.E.P. § 2112(V). Consequently, the Office Action does not establish a *prima facie* case of obviousness because the cited references do not teach or suggest all of the limitations of the claims.

Moreover, even if the repeater of Erreygers were to perform sampling and amplification, as suggested by the Office Action, such teaching would be insufficient to establish a *prima facie* case of obviousness because there is no teaching that the sampling occurs within amplification circuitry. Rather, the Office Action merely suggests that the received signal is sampled, presumably by the A/D converter, before the signal is amplified. The Office Action does not assert or suggest that such sampling occurs within the amplification circuitry. Additionally, there is no teaching in Erreygers or suggestion by the Office Action that the sampling is performed to evaluate the amplification circuitry. Thus, Erreygers does not teach or suggest sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry.

In contrast, claim 18 recites “sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry.” For the reasons stated above, Sheno and Erreygers, either alone or in combination, fail to teach or suggest all of the limitations of the claim. In particular, the cited references do not teach or suggest sampling a digital subscriber loop signal within amplification circuitry of the loop extender to evaluate the amplification circuitry. Given that the cited references fail to teach or suggest all of the limitations of the claim, Applicant

respectfully submits that claim 18 is patentable over the cited references. Accordingly, Applicant requests that the rejection of claim 18 under 35 U.S.C. § 103(a) be withdrawn.

Given that claims 19-31 depend from independent claim 18, which is patentable over the cited references, Applicant respectfully submits that dependent claims 19-31 are also patentable over the cited references. Accordingly, Applicant requests that the rejection of claims 19-31 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

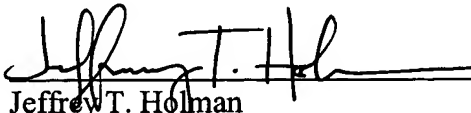
It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections have been overcome. If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Jeffrey Holman at (408) 720-8300.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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Jeffrey T. Holman
Reg. No. 51,812

12400 Wilshire Blvd.
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300